

CLASS E/F SWITCHING POWER AMPLIFIERS

ABSTRACT

The present invention discloses a new family of switching amplifier classes called "class E/F amplifiers." These amplifiers are generally characterized by their use of the zero-voltage-switching (ZVS) phase correction technique to eliminate of the loss normally associated with the inherent capacitance of the switching device as utilized in class-E amplifiers, together with a load network for improved voltage and current wave-shaping by presenting class-F⁻¹ impedances at selected overtones and class-E impedances at the remaining overtones. The present invention discloses a several topologies and specific circuit implementations for achieving such performance.